Remote access to ALBA beamline desktops using NoMachine NX

Contents

Requirements and recommendations

Remote access availability at the beamlines

Currently the remote access is only available at the Xaloc beamline (BL13), although we expect to extend it to other beamlines in the future.

As a first step, you should **ask your local contact at the beamline** if you wish to schedule a remote access session. He will inform you about the procedures to follow and any possible safety issues. In case of approval, your access will be enabled for the agreed date.

Hardware requirements

It is recommended you **use at least one high resolution monitor (1920x1200, 24" or bigger)**. The Xaloc beamline workstation uses 3 monitors so ideally you would use 2 or 3 to minimize the amount of horizontal scrolling required for operating the different GUIs.

As for the PC, the NX software is designed to work on computers with minimal hardware resources. Any relatively modern PC (less than 5 years old) should be more than enough, the NX recommendation is at least an Intel Core 2 Duo with 512MB of RAM.

Internet connection

Only a **residential Internet connection (ADSL/Fibre/Cable) with basic speed** is required. During our tests, we were able to successfully operate the beamline at good speed even while using the lowest speed ADSL connection available in Spain (Movistar ADSL Basico with 8 Mbps download and 300 Kbps upload.)
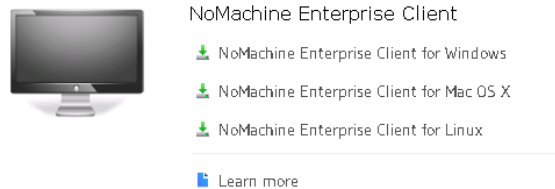
Configuring the Nomachine Enterprise client in your PC

Install the NoMachine Enterprise Client in your PC

Download the NoMachine Enterprise Client for your OS from the NoMachine website.

There are clients available for Windows, Mac OS X and Linux:

https://www.nomachine.com/download-enterprise#NoMachine-Enterprise-Client

Installation of the software should be pretty straightforward, just follow their instructions.

Summary of configuration parameters for Nomachine Enterprise Client

Protocol: **NX**
Host: **remotenx.cells.es**
Port: **8080**
Use UDP communication for multimedia data: **No, leave unchecked**
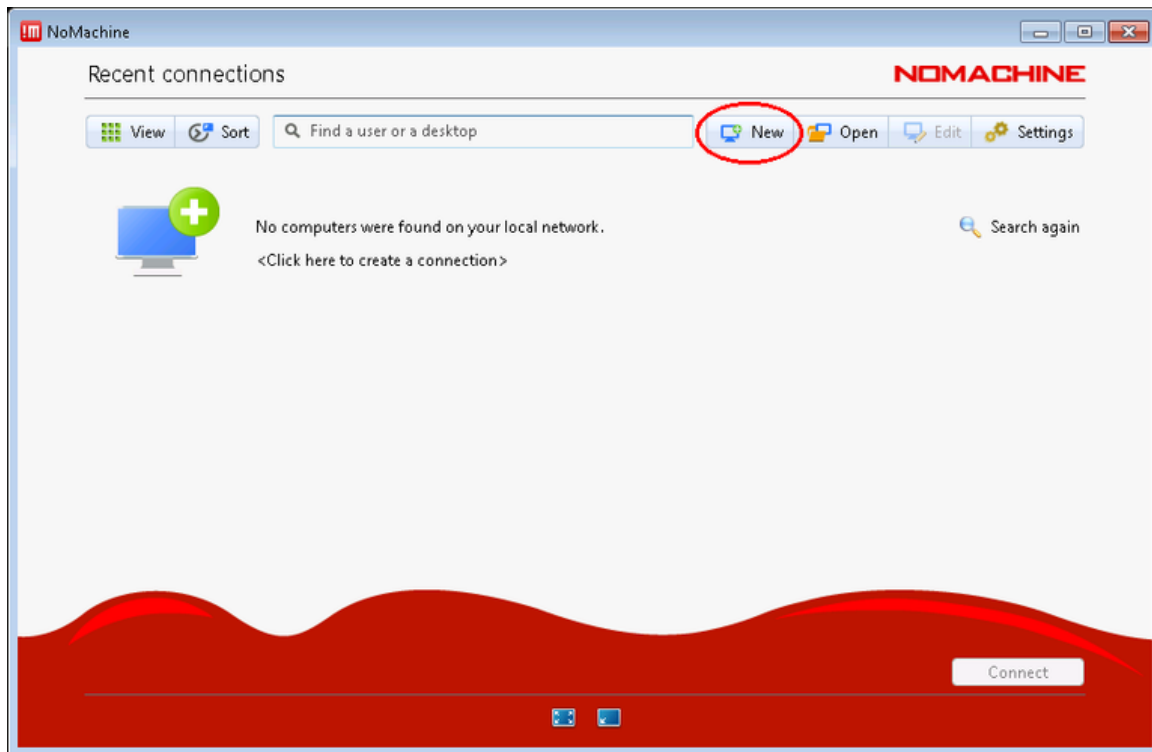Authentication method: **Password**
Use HTTP Proxy: **Don't use a proxy**
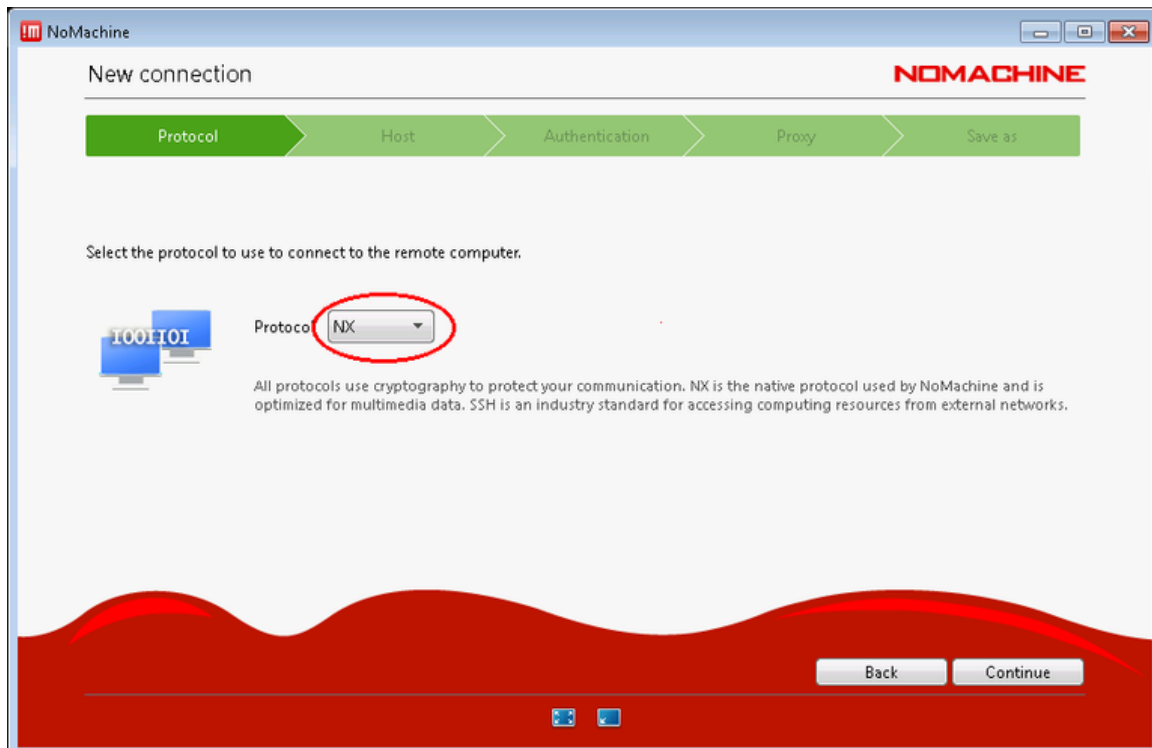Connection name: **ALBA remote access**

The following pages explain how to configure the client step by step.

Step-by-step configuration of the NoMachine Enterprise Client

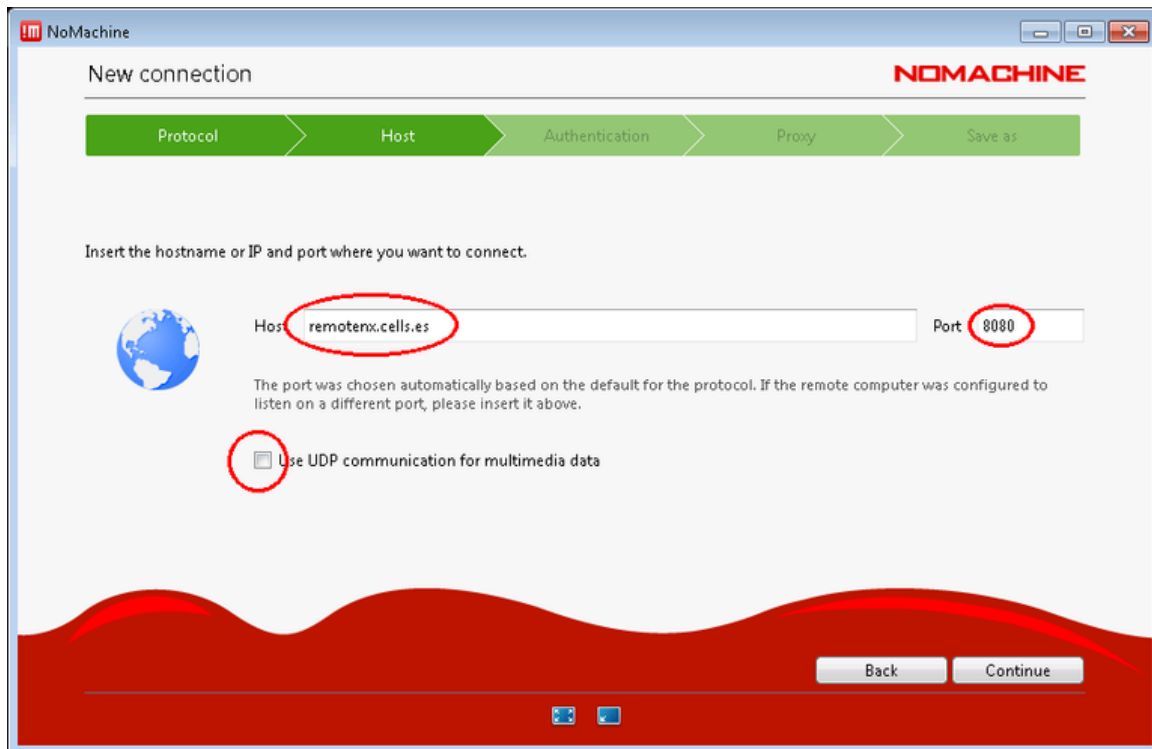1. Start the software and create a new connection:
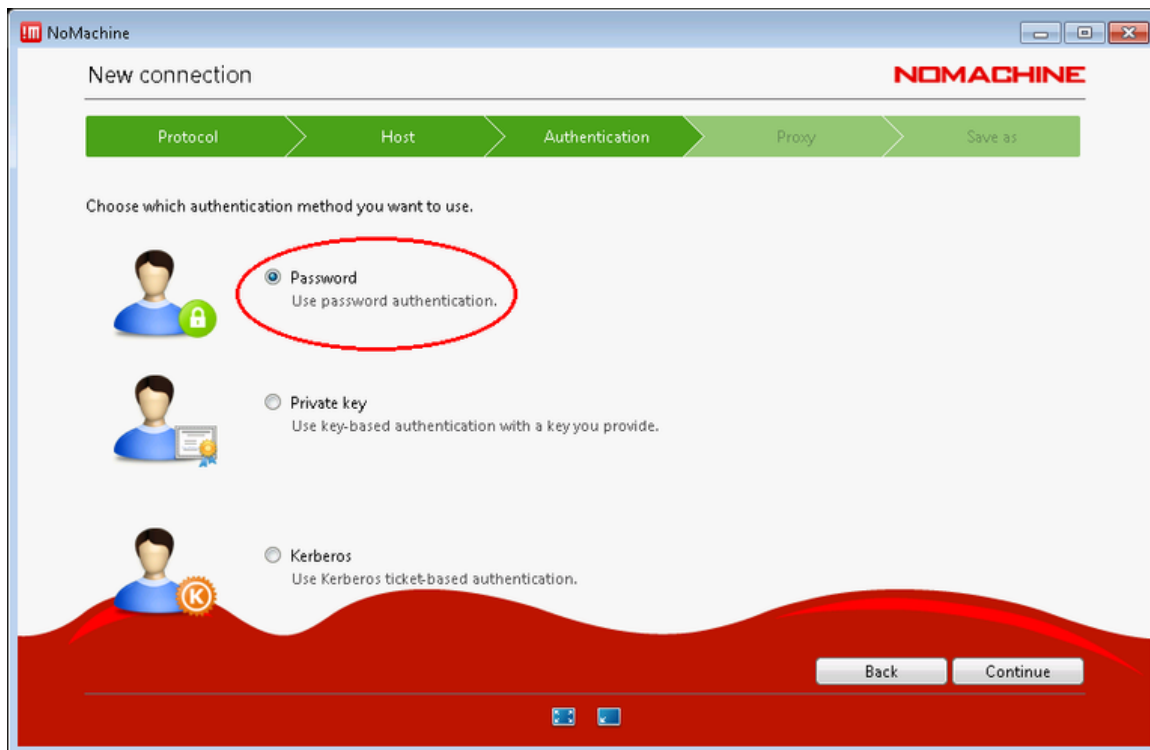

2. Choose *NX* as the protocol:
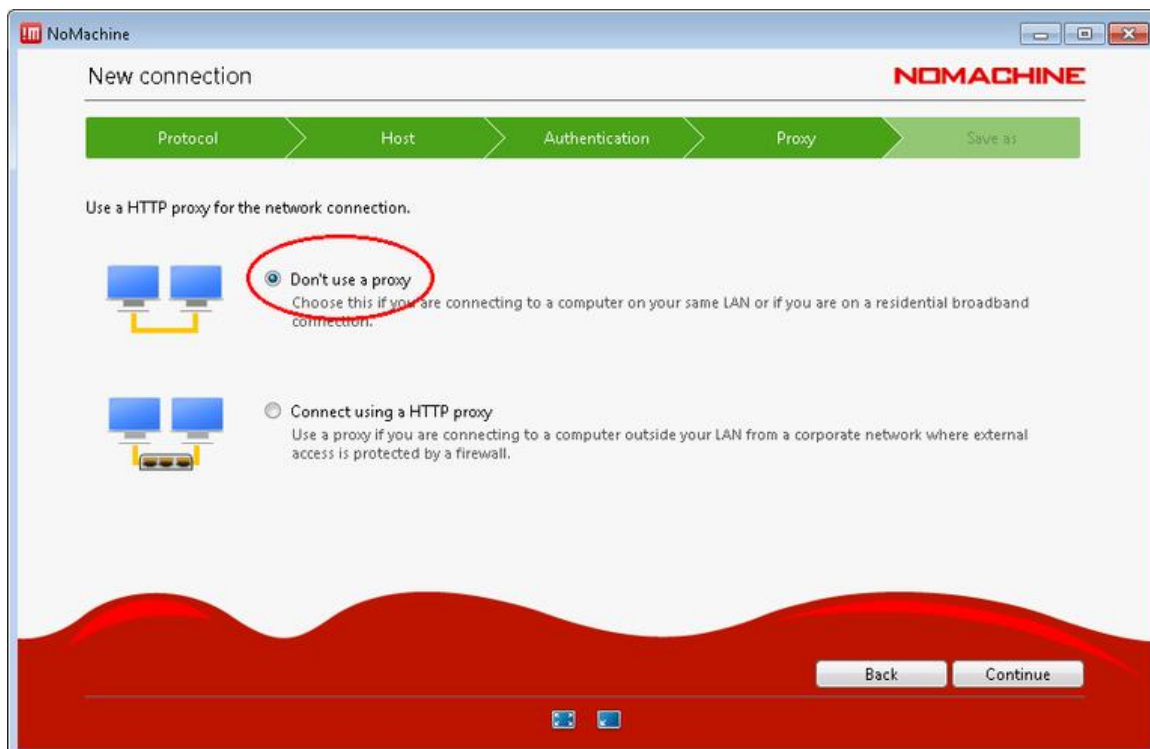
3. Choose the following parameters:

- Host: *remotenx.cells.es*
- Port: *8080*
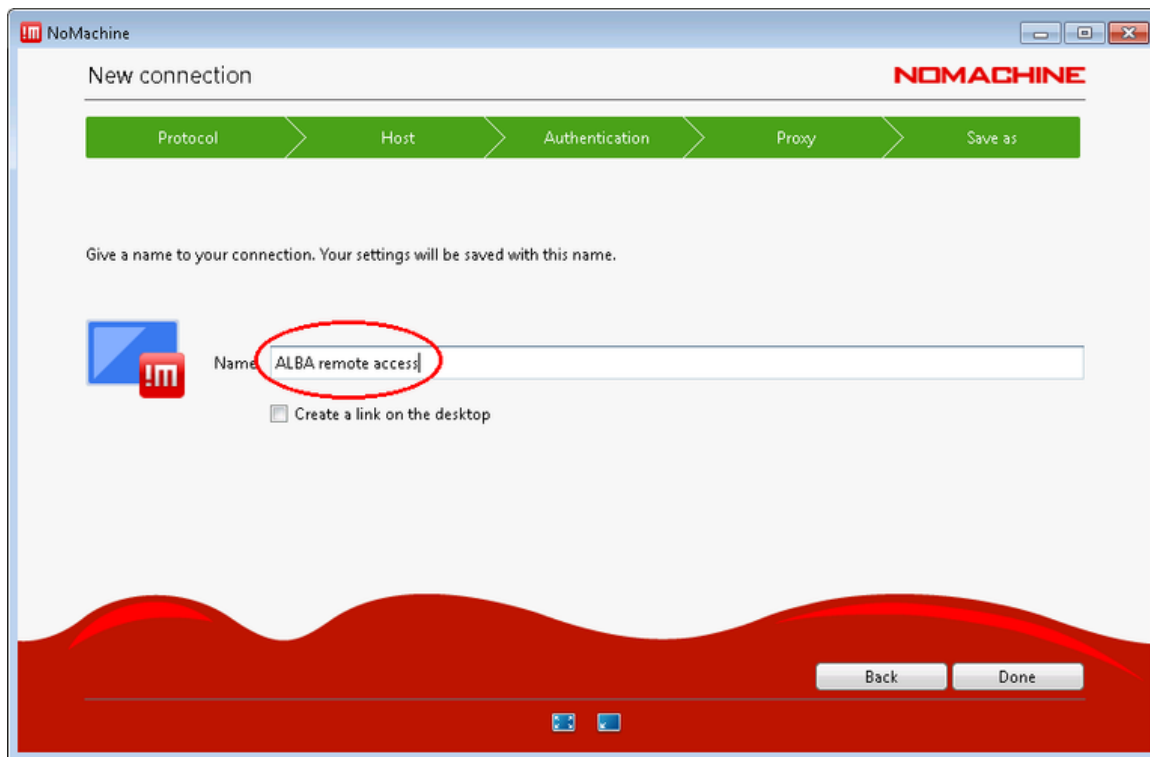- Uncheck the "*Use UDP communication for multimedia data*".

4. Choose *"Password"* authentication:

5. Choose "*Don't use a proxy*" (unless your institution requires a proxy to access the Internet):

6. Finally choose a name for your connection, i.e: *ALBA remote access:*

7. Your Nomachine Enterprise client is now configured and the NX connection to ALBA is ready to be used.

Configuring the connection to the beamline desktop PC

Establish a connection to the beamline desktop PC

1. Start the NoMachine Enterprise Client software on your PC. Click on *ALBA remote access* to select this connection and then click the *Connect* button to continue:
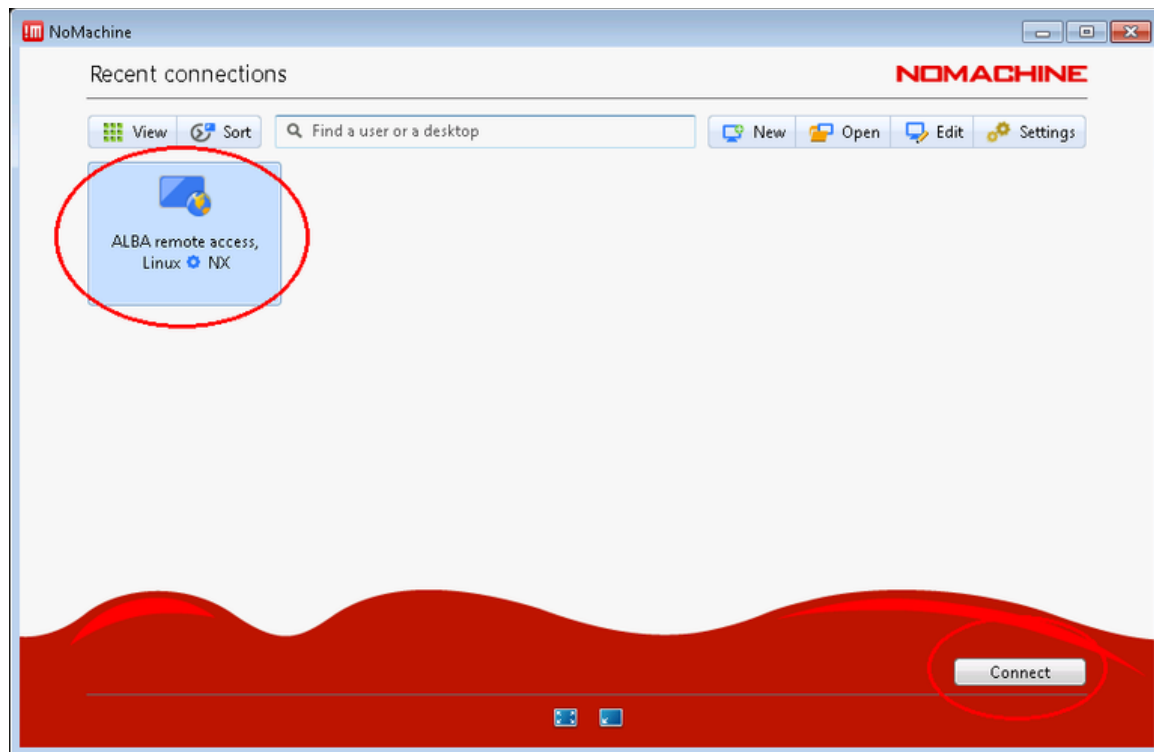
2. On the very first time you use this connection, you will get a prompt for verifying the host authenticity. You can simply click *Yes* to continue.
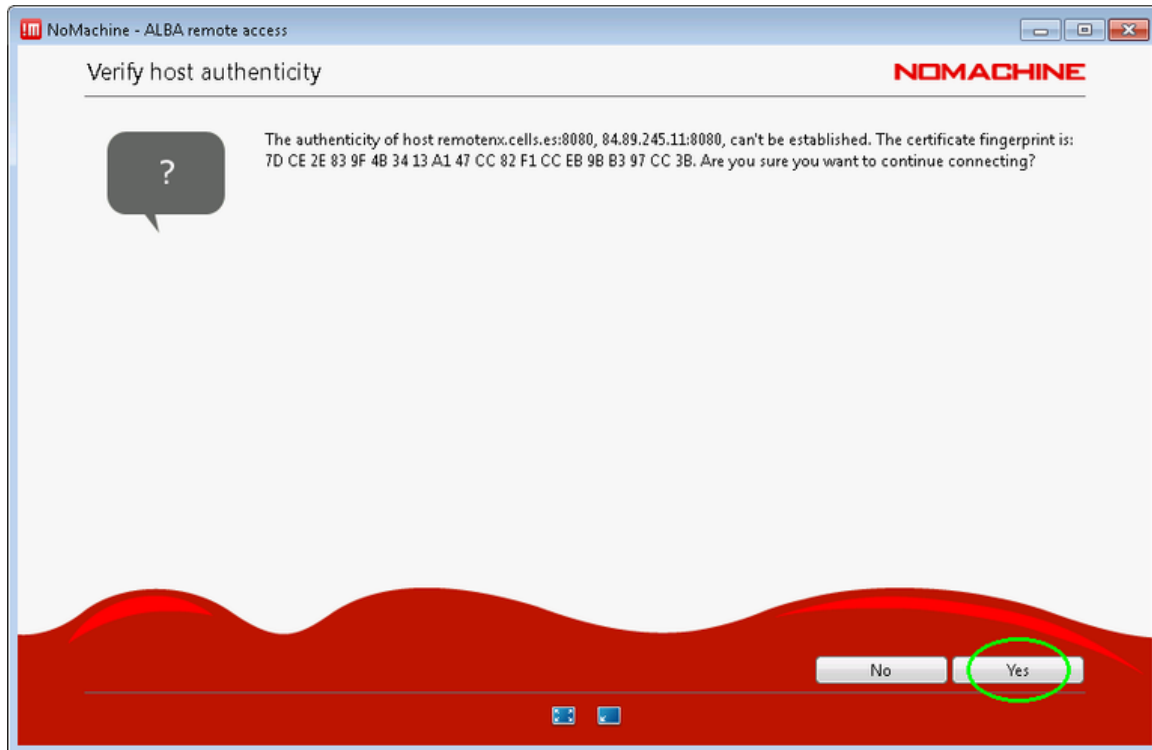

From now on the software will recognize this host fingerprint and you will no longer get the prompt above.

3. Now you should authenticate with your username and password.

Typically, these credentials are provided to you the first time you visit ALBA for an experiment, with the recommendation to set your own password as well. They are the same credentials used to remotely download your experiment data using SFTP.

If you don't remember the username or password, please ask your local contact at the beamline.
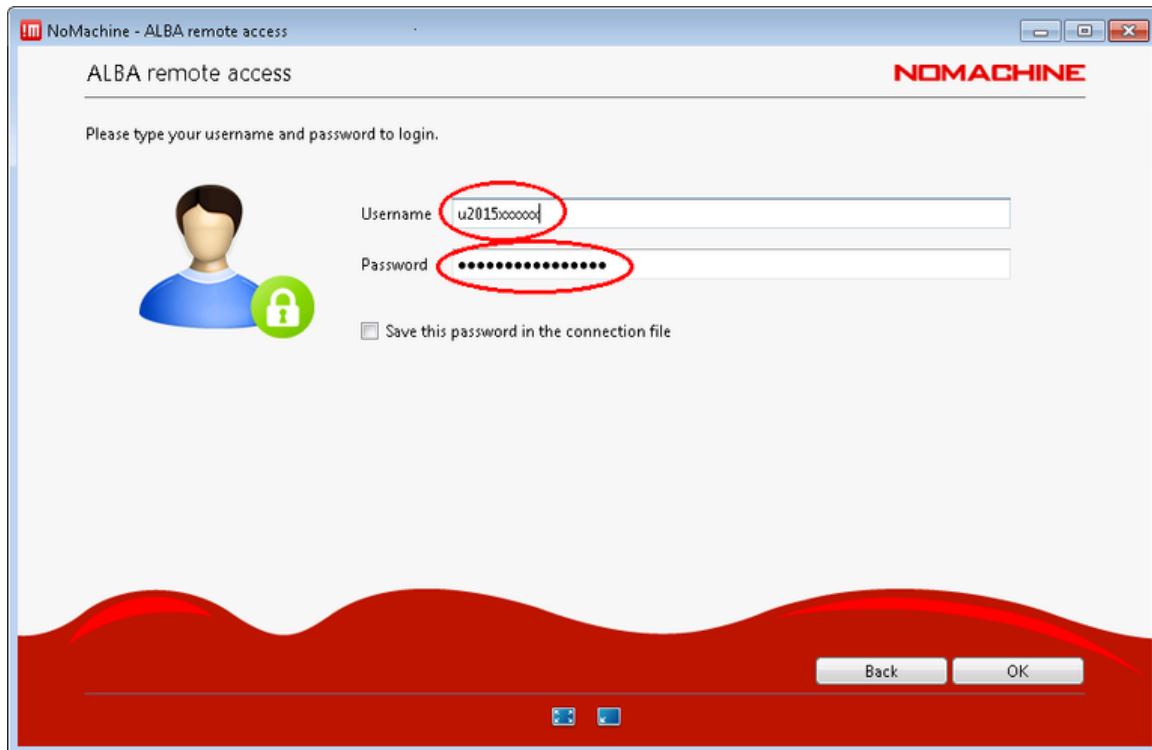
4. Now, you should get a screen listing the available *Physical displays.*

If you don't see any available desktop and instead get a message stating *"No available sessions"*, you should change from *My desktops* to *All desktops* at the top-right of the screen:
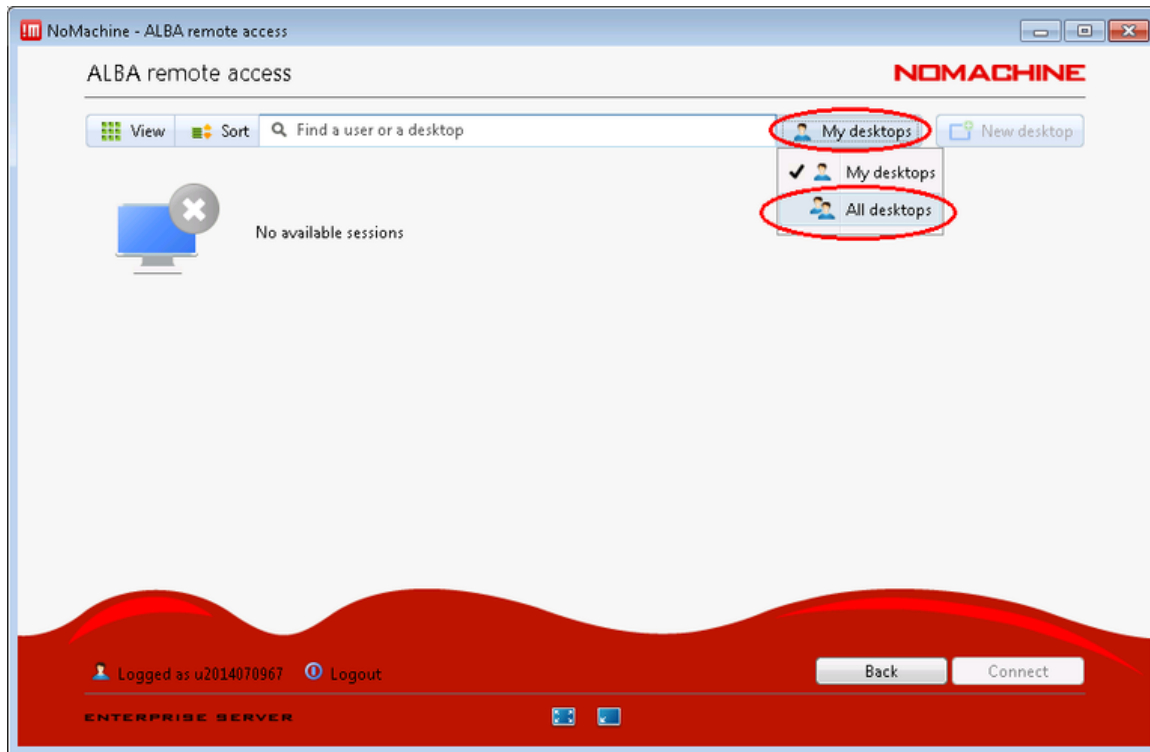
Now you should be able to locate the Physical display of the beamline PC and connect to it:
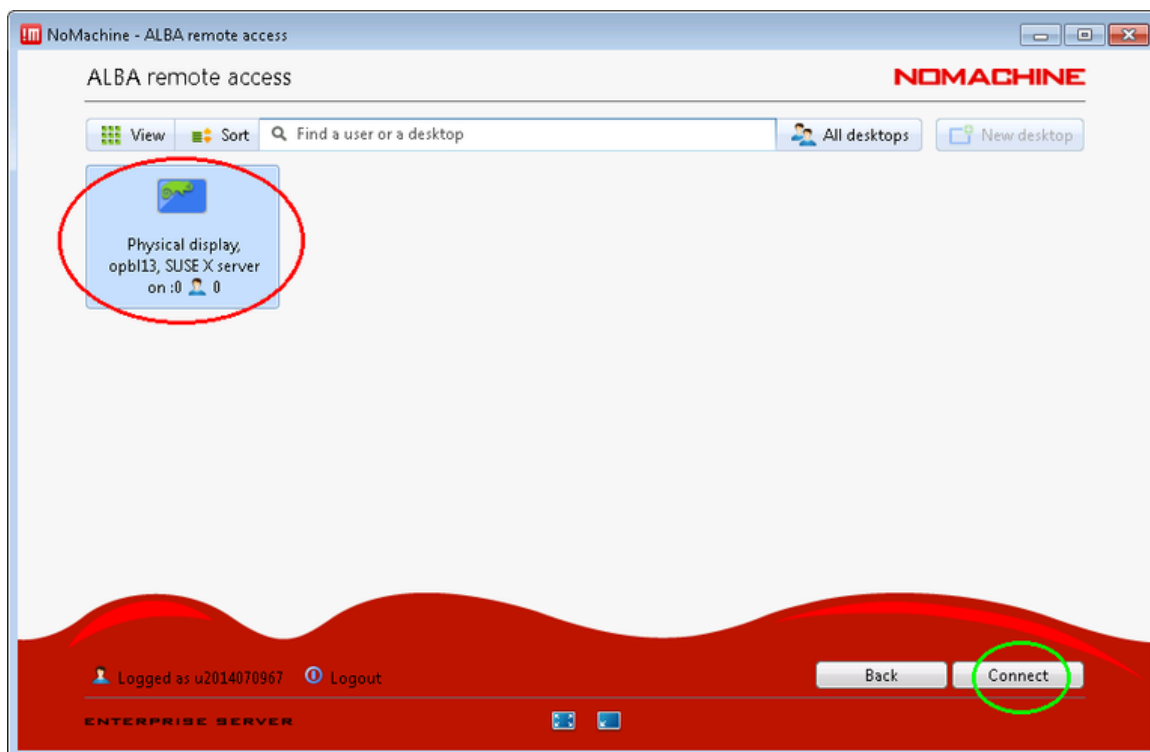
5. After initiating the connection to the Physical display, you will have to wait for the local user running the beamline PC to authorize your connection to join the existing desktop session:
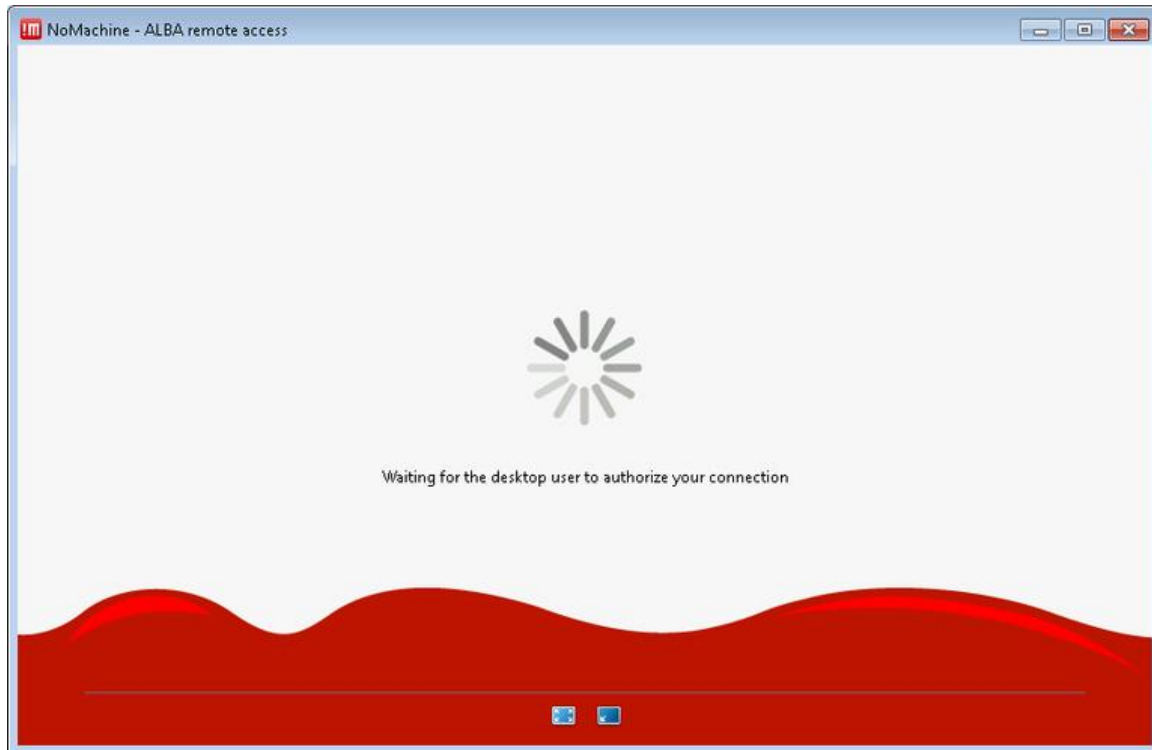
6. Once the current beamline user authorizes the connection, you will be shown the desktop of the beamline PC.

But on the first connection, you will also get a brief tutorial about how the software works, just click on OK:
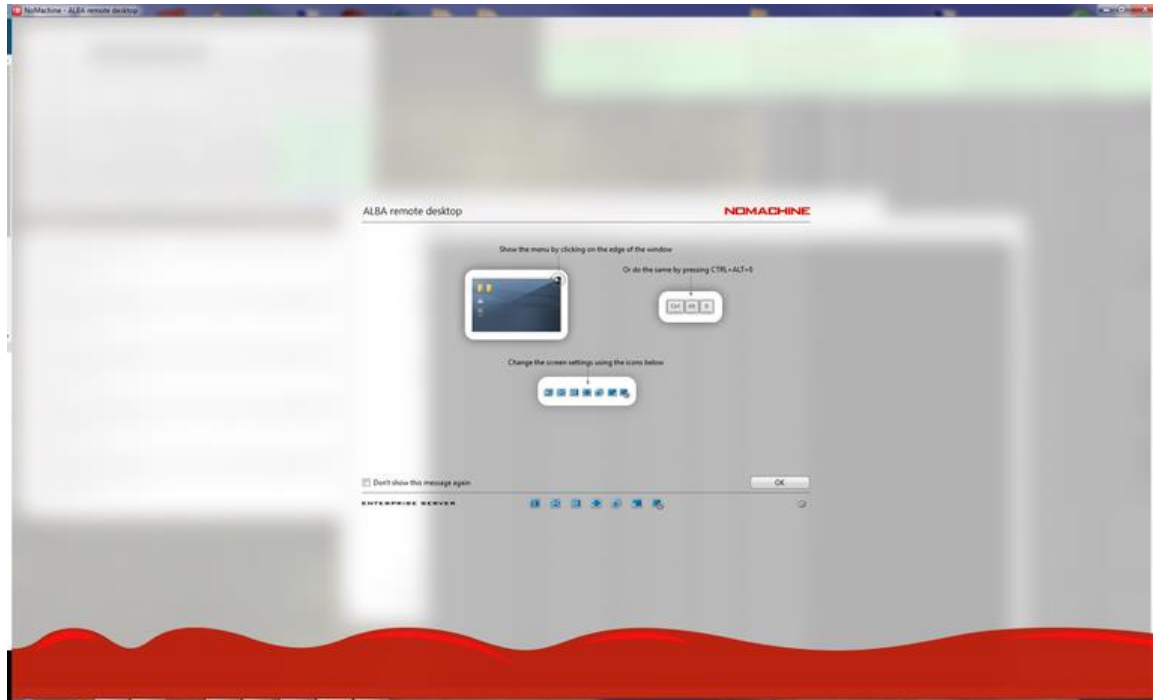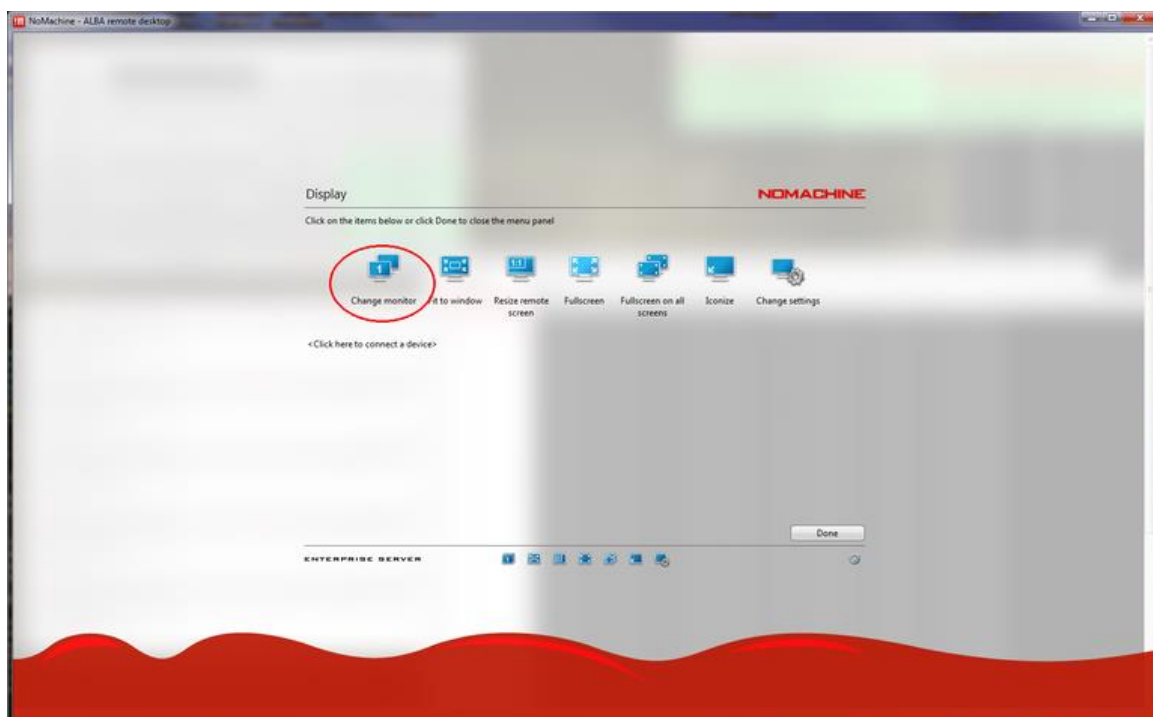

After the tutorial ends, you will get a full view of the desktop in the beamline PC.

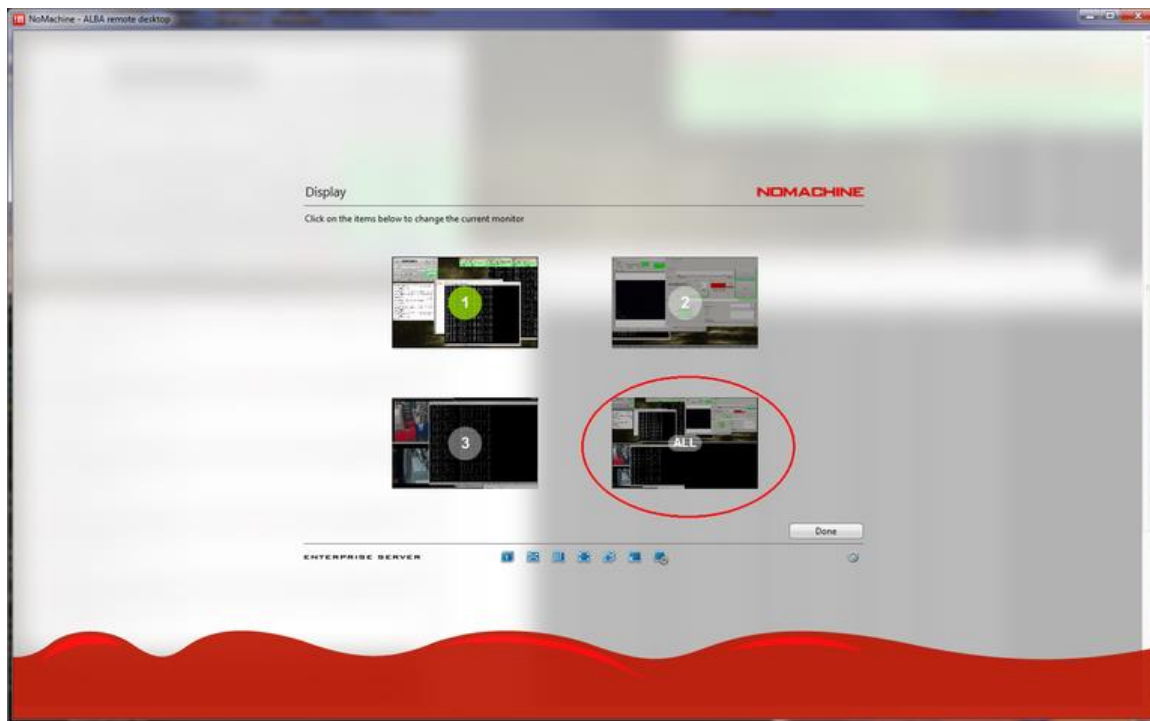7. In case you only see one of the three monitors in the beamline, you should adjust the NX Display settings.

First of all type the keyboard shortcut *CTRL+ALT+0 (number zero)* to bring up the NX settings screen, then click on *Display*:
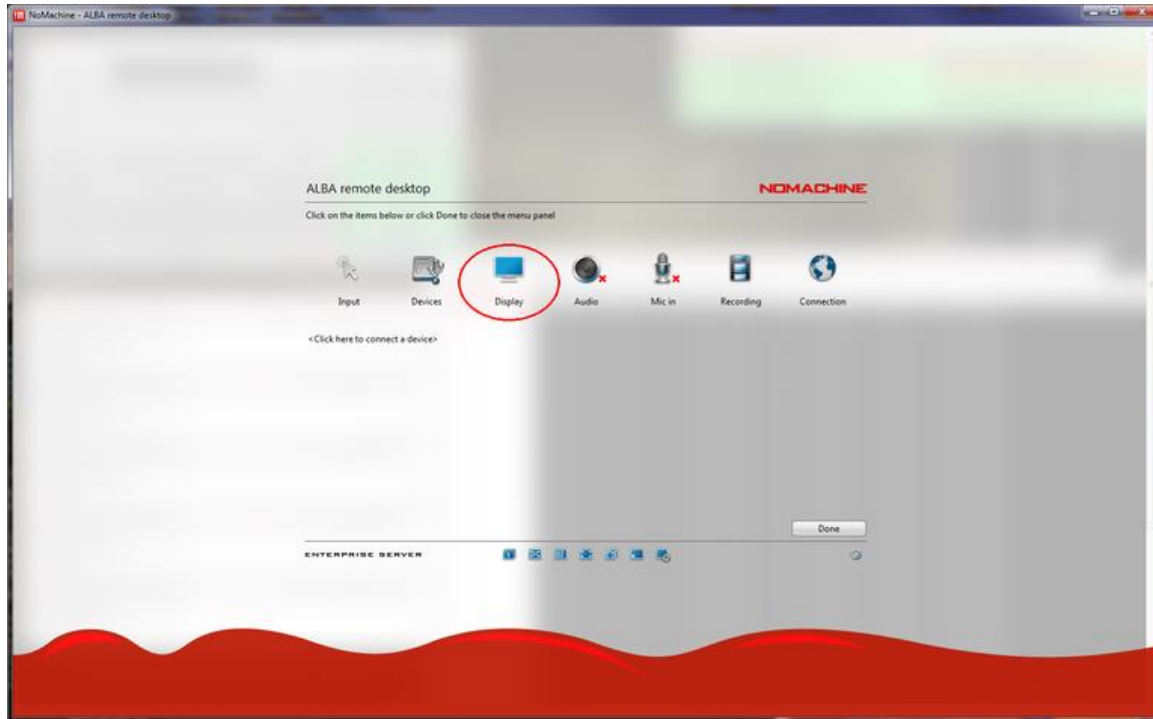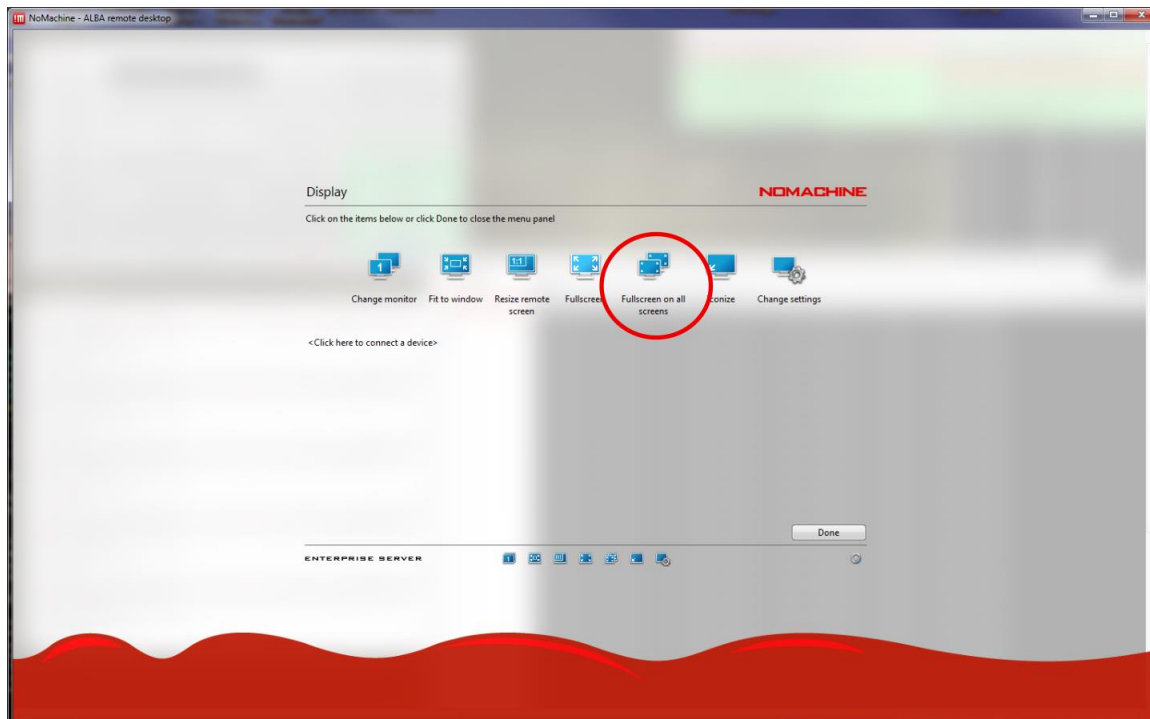

Next go to *Change Monitor*:

And finally choose *ALL* to display all remote monitors in your PC:

In case you have multiple monitors, you should also enable the option *Fullscreen on all screens* in the *Display* menu:

# Troubleshooting and frequently asked questions

I don't remember my username or password

Your username is the "u" letter plus the <proposalid>, i.e: u2014xxxxxx.

An initial password is typically provided to you the first time you visit ALBA for an experiment, with the recommendation to set your own password as well. If you don't remember the password or need to change it, you can ask your local contact to reset it for you.

I get the error "*No available sessions*" after entering my user and password

If you don't see any available desktop and instead get a message stating *"No available sessions"*, you should change from *My desktops* to *All desktops* at the top-right of the screen:
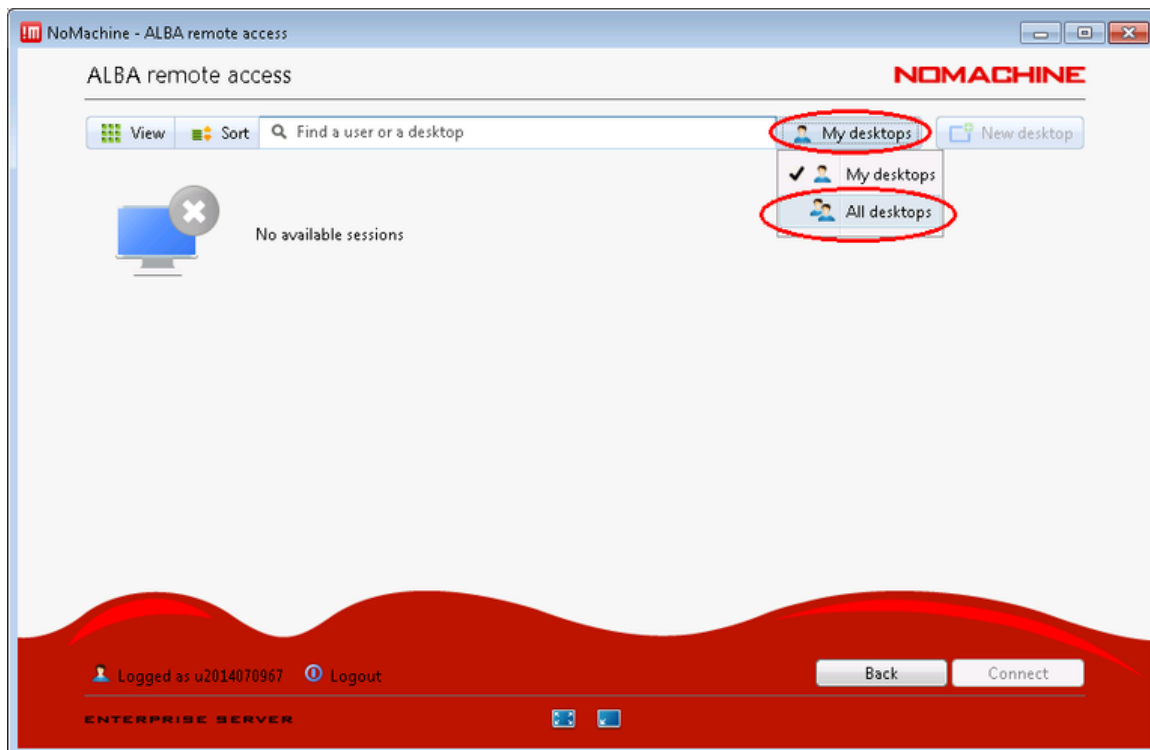
Now you should be able to locate the Physical display of the beamline PC and connect to it:
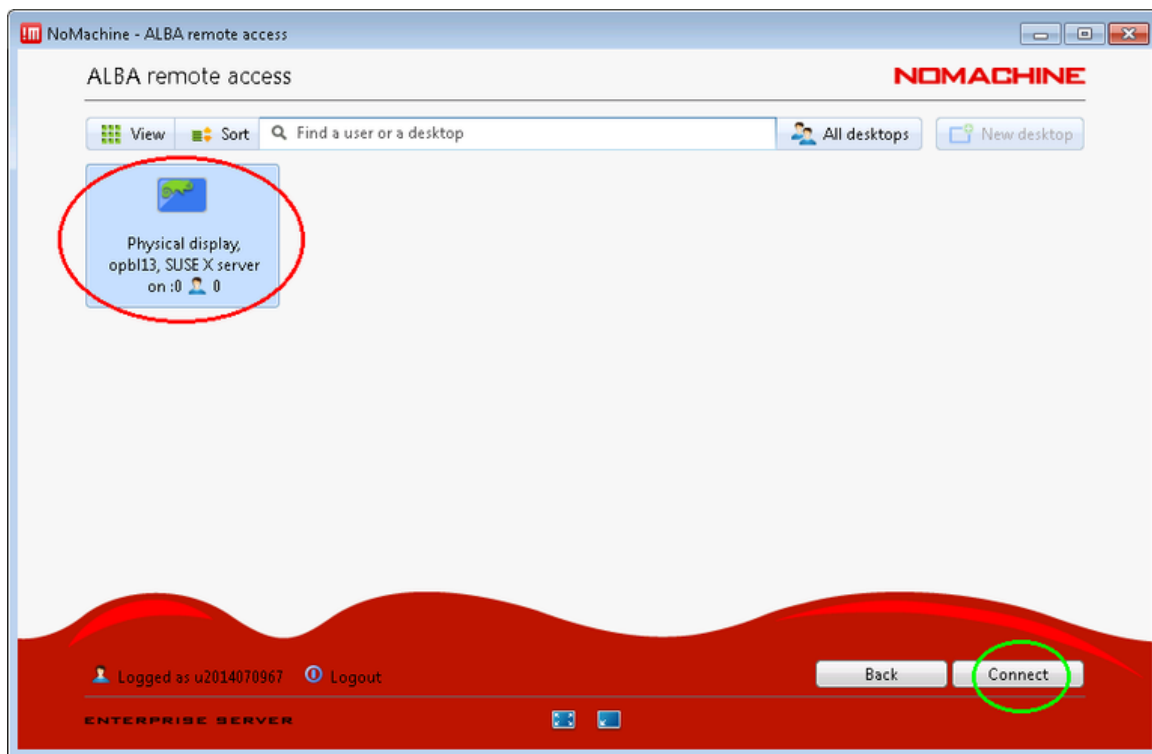
## How do I access the NX settings (display, keyboard, etc...) menu?

Once the remote session to your desktop is open and running, to access the Menu Panel, enter the key combination Ctrl+Alt+0 (Ctrl+Alt+zero) or move your cursor to the page-peel in the top right-hand corner of the window

You can also check this Nomachine article describing all the available NX settings in detail .
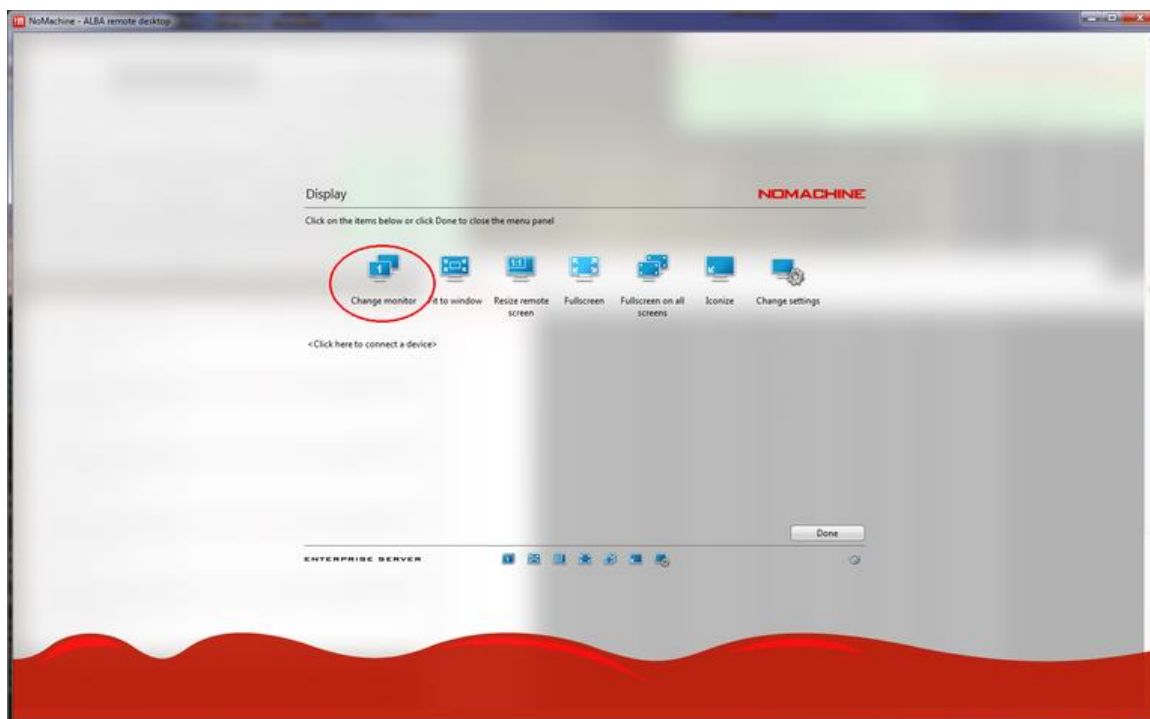
I can only see one of the remote monitors in the beamline

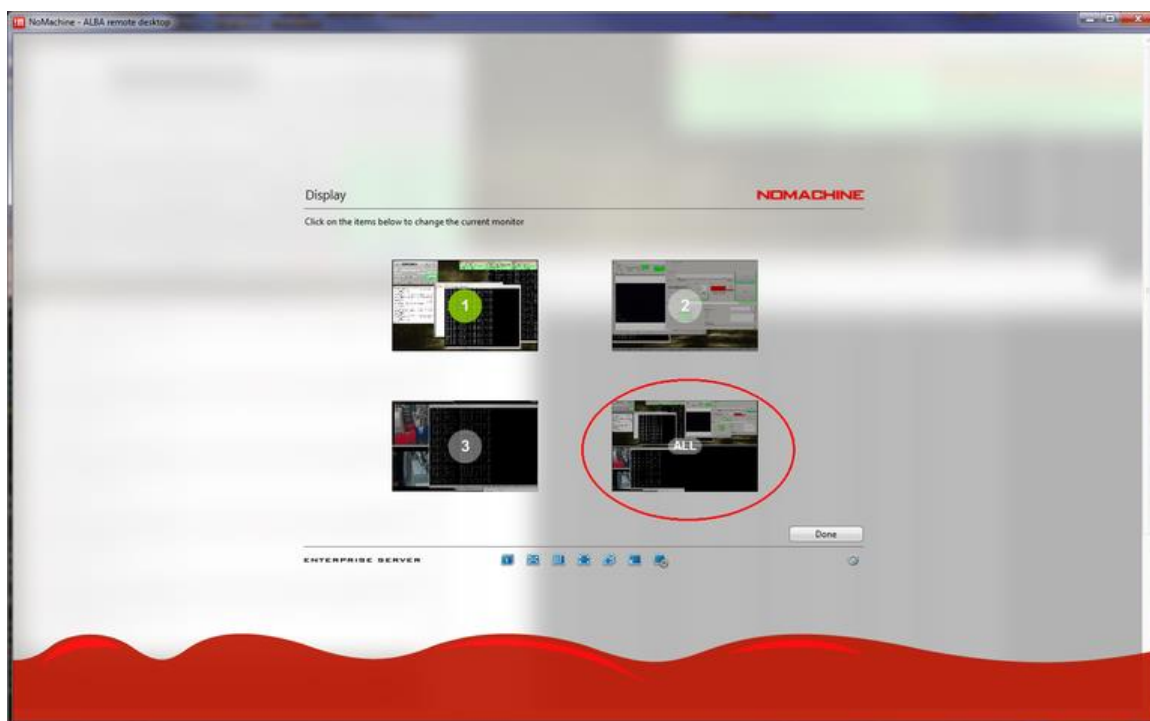In case you can only see one of the three monitors in the beamline, you should adjust the NX Display settings.

First of all type the keyboard shortcut *CTRL+ALT+0 (CTRL+ALT+zero)* to bring up the NX settings screen, then click on *Display*:
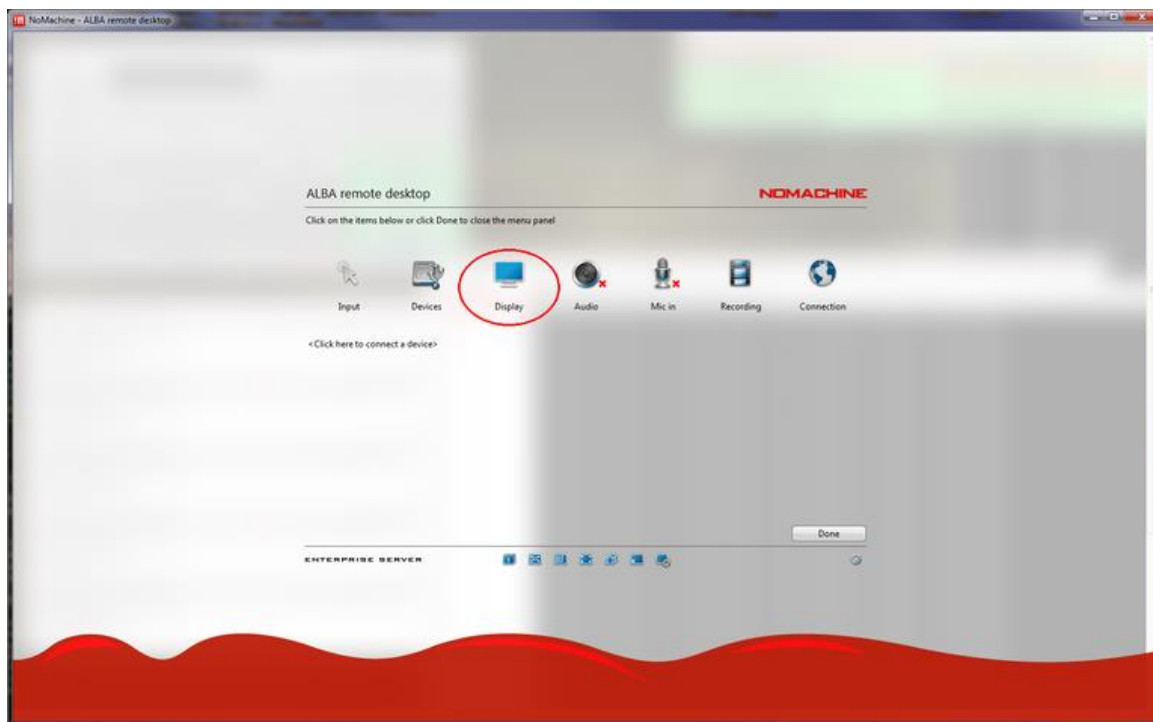
Next go to *Change Monitor*:

And finally choose *ALL* to display all the remote monitors in your PC:

Once you have configured the view of the three monitors, you can easily switch between them by scrolling horizontally to the edge of the screen.

I have multiple monitors at my PC, how can I use them all for the remote sessions?

In case you have multiple monitors, you should enable the option *Fullscreen on all screens* in the *Display* menu: